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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/610,118	06/30/2000	Samantha J. Busfield	7853-211	6846

7590 12/03/2003

INTELLECTUAL PROPERTY GROUP
MILLENNIUM PHARMACEUTICALS INC
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EXAMINER	
HUYNH, PHUONG N	

ART UNIT	PAPER NUMBER
1644	

DATE MAILED: 12/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/610,118	BUSFIELD ET AL.	
	Examin r	Art Unit	
	Phuong Huynh	1644	

-- The MAILING DATE of this communication appears on the cover sheet with th correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *Three* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *See Continuation Sheet* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *252* is/are allowed.

6)☒ Claim(s) *See Continuation Sheet* is/are rejected.

7)☒ Claim(s) *231* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/22/2003 has been entered.

2. Claims 132-136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 155, 157, 159, 161-165, 168-169, 171, 173, 175-178, 180-181, 183, 185, 187-189, 191-192, 194, 196, 198-201, 203, 205, 207-208, 210-213, 215-216, 218, 220, 222-224, 226-227, 229, 231, 233-235, 237-238, 240, 242, 245-252, 254, and 256-264 are pending and are being acted upon in this Office Action.

3. The disclosure is objected to because of the following informality: "09/345,068" page 3, line 3 should have been 09/345,468. Appropriate action is required.

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: Glycoprotein VI antibodies and uses thereof.

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 132-136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 155, 157, 159, 161-165, 168-169, 171, 173, 175-178, 180-181, 183, 185, 187-189, 191-192, 194, 196, 198-201, 203, 205, 207-208, 210-213, 215-216, 218, 220, 222-224, 226-227, 229, 233-235, 237-238, 240, 242, 245-251, and 256-264 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

The specification does not reasonably provide a **written description** of *any* substantially purified antibody comprising *any* combination, and subcombination of complementarity determining region (CDR) having the amino acid sequence of any CDR encoded by the same cDNA insert of the plasmid deposited ATCC Number PTA-2442 wherein said antibody immunospecifically binds to any "human TANGO 268 antigen" as set forth in claims 132-136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 155, 157, 159, 161-165, 168-169, 171, 173, 175-178, 180-181, 183, 185, 187-189, 191-192, 194, 196, 198-201, 203, 205, 207-208, 210-213, 215-216, 218, 220, 222-224, 226-227, 229, 233-235, 237-238, 240, 242, 245-251, and 256-264.

The specification discloses in only a substantially purified antibody comprising heavy chain complementary regions VH CDR1, VH CDR2, VH CDR3 wherein the VH CDR1 consisting of SEQ ID NO: 61, VH CDR2 consisting of SEQ ID NO: 62 and VH CDR3 consisting of SEQ ID NO: 63 and light chain complementary regions VL CDR1, VL CDR2, VL CDR3 wherein the VL CDR 1 consisting of 64, VL CDR2 consisting of SEQ ID NO: 65 and VL CDR3 consisting of SEQ ID NO: 66 encoded by the cDNA insert of the plasmid deposited with the ATCC as patent deposited Number PTA-2442 wherein the antibody immunospecifically binds to human TANGO 268 antigen comprising SEQ ID NO: 3, (2) the said antibody is conjugated to a therapeutic moiety for targeting therapeutic agent to the platelet receptor; (3) the said antibody is conjugated to a detectable substance for diagnosis and screening assays and (4) a kit comprising said antibody for diagnosis and screening assays.

The specification does not adequately describe the scope of the claimed genus of antibodies, each of which encompasses a substantial variety of subgenera of CDRs. Further, there is insufficient **written description** about the structure the CDRs of all CDR domains in the combination and subcombination, much less about the binding specificity, and the epitope to which the claimed antibody binds.

Given the inadequate written description about the structure of the remaining CDRs in the claimed antibody, and the epitope to which the claimed antibody binds, one of skill in the art would reasonably conclude that the disclosure fails to provide a representative number of species to describe the genus. Thus, Applicant was not in possession of the claimed genus. *See University of California v. Eli Lilly and Co. 43 USPQ2d 1398.*

Applicant is directed to the Revised Interim Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, ¶ 1 "Written Description" Requirement, Federal Register, Vol. 66, No. 4, pages 1099-1111, Friday January 5, 2001.

Applicants' arguments filed 9/22/03 have been fully considered but are not found persuasive.

Applicants' position is that although TANGO 268 is recognized as glycoprotein VI, a protein previously characterized in the art, the applicants cloned and derived the novel sequence of the gene and its protein, for which they were awarded the patents 6,245,527 (nucleic acid) and US Pat No 6,383,779 (polypeptide). Therefore, the antibodies of the present invention which bind to the novel TANGO 268 proteins are themselves novel.

However, novelty of antibody depends on its binding specificity and the epitope to which the antibody binds. In fact, the instant specification discloses on page 3 that TANGO 268 antigen and GPVI are both recognized by anti-GPVI antibodies and bind to Cvx. The TANGO 268 antigen comprising the specific amino acid sequence may be novel as evidence by the issued patents, due to its sequence identity (having a stretch of amino acids) identical to GPVI, the claimed antibody may or may not be novel depending upon the epitope on TANGO 268 to which the claimed antibody binds.

7. Claims 247 and 249-251 are rejected under 35 U.S.C. 112, first paragraph, containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. **This is a new matter rejection.**

The "PTA-2445" in Claims 247 and 251 represents a departure from the specification and the claims as originally filed because the ATCC patent depository receipt filed on 9/25/00 indicates that the plasmid with the ATCC patent deposited number PTA-2445 is for a human single chain antibody **L3**. The specification does not disclose human single chain antibody L3. The specification discloses only four human single chain antibodies and they are: scFv A4 with patent deposit number PTA-2444, scFv A9 with patent deposit number PTA-2443, scFvs A10 with patent deposit number PTA-2442, scFv **C3** with patent deposit number PTA-2445.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

9. Claims 132-136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 155, 157, 159, 161-165, 168-169, 171, 173, 175-178, 180-181, 183, 185, 187-189, 191-192, 194, 196, 198-201, 203, 205, 207-208, 210-213, 215-216, 218, 220, 222-224, 226-227, 229, 233-235, 237-238, 240, 242, 245-251, 254, and 256-264 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is noted that all antibodies in claims 132-136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 155, 157, 159, 161, 162-165, 168-169, 171, 173, 175-178, 180-181, 183, 185, 187-189, 191-192, 194, 196, 198-201, 203, 205, 207-208, 210-213, 215-216, 218, 222-224, 226-227, 229, 231, 233, 234-235, 237-238, 240, 242, 245-251, 254, and 256-264 encoded by the **same** cDNA insert of the plasmid deposited with the ATCC as patent deposited number PTA-2442. However, It is not clear how CDR such as VH CDR, VL CDR, VH CDR3VL, CDR3, VL CDR2, VH CDR2, VH CDR 1, VL CDR1 of the antibody related to cDNA insert of the plasmid deposited with the ATCC as patent deposited number PTA-2442.

Further, human "TANGO 268 antigen" is merely a laboratory designation which does not clearly define the claimed product, since different laboratories may use the same laboratory designation to define completely distinct protein. One of ordinary skill in the art cannot appraise the metes and bound of the claimed invention. Amending the claims to recite the appropriate the appropriate SEQ ID NO for human Tango antigen, and the appropriate SEQ ID NO for the CDR such as VH CDR, VL CDR, VH CDR3VL, CDR3, VL CDR2, VH CDR2, VH CDR 1, VL CDR1 such as the ones in Table 7 on page 102 would obviate this rejection.

The recitation of "the antibody is conjugated to a therapeutic or drug moiety" in claim 261 is improper because dependent claim should be in narrower in scope than the claim to which it depends from. It is suggested that claim 261 be amended to recite "A conjugated antibody of claim 132, 133, or 134, wherein the antibody is conjugated to a therapeutic or drug moiety".

The recitation of "the antibody is linked to a detectable substance" in claim 262 is improper because dependent claim should be in narrower in scope than the claim to which it depends from. It is suggested that claim 262 be amended to recite "A conjugated antibody of claim 132, 133, or 134, wherein the antibody is conjugated to a detectable substance".

10. Claim 254 is rejected under 35 U.S.C. 102(b) as being anticipated by Sugiyama *et al* (Blood 69(6): 1712-1720, June 1987; PTO 1449) as evidenced by the specification disclosed on page 3, lines 31-35.

Sugiyama *et al* teach a composition of substantially purified antibody such as autoantibody (human antibody) and fragment thereof such as F(ab')2 in PBS, which is a phosphate buffer saline solution and a pharmaceutical acceptable carrier, wherein the reference antibody specifically binds to a collagen receptor on platelet with an apparent molecular weight of 62 KDa from a patient with defective collagen-induced Platelet aggregation and autoimmune thrombocytopenia (See abstract, Materials and Methods, page 1717, column 1, in particular). The reference protein appears to be the same as the claimed polypeptide of SEQ ID NO: 3 that is predicted to be approximately 62 kDa as disclosed on page 3, line 35 of the specification. While the reference is silent that the reference antibody competes with the claimed scFv antibody, as evident by the specification on page 3, lines 31-35 that TANGO 268 and GPVI are both recognized by anti-GPVI antibodies and bind to Cvx. Since the Patent Office does not have the facilities for examining and comparing the antibodies of the instant invention to those of the prior art, the burden is on applicant to show that the prior art antibody is different from the claimed antibody. See In re Best, 562 F.2d 1252, 195 USPQ 430(CCPA 1977). Thus, the reference teachings anticipate the claimed invention.

11. Claim 254 is rejected under 35 U.S.C. 102(b) as being anticipated by Gibbins *et al* (FEBS Letters 413: 255-259, 1997; PTO 1449) as evidenced by the specification disclosed on page 3, lines 31-35.

Gibbins *et al* teach a substantially purified antibody such as autoantibody anti-GPVI that specifically binds to glycoprotein VI (GPVI) on platelet (See Materials and Methods, first paragraph, page 256, first column, in particular). The reference surface protein is approximately 60 kDa (See page 256, column 1, Fig 1, arrow, in particular) appears to be the same as the claimed polypeptide of SEQ ID NO: 3 as disclosed on page 3 line 35 of the specification. While the reference is silent that the reference antibody competes with the claimed scFv antibody, as evident by the specification on page 3, lines 31-35 that TANGO 268 and GPVI are both recognized by anti-GPVI antibodies and bind to Cvx. Since the Patent Office does not have the facilities for examining and comparing the antibodies of the instant invention to those of the prior art, the burden is on applicant to show that the prior art antibody is different from the claimed

antibody. See In re Best, 562 F.2d 1252, 195 USPQ 430(CCPA 1977). Thus, the reference teachings anticipate the claimed invention.

12. Claim 231 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Claim 252 is allowed.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to "Neon" Phuong Huynh whose telephone number is (703) 308-4844. The examiner can normally be reached Monday through Friday from 9:00 am to 6:00 p.m. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (703) 308-3973. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1600 receptionist (customer service) whose telephone number is (703) 872-9305.

15. Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center telephone number is (703) 305-7401. The IFW official Fax number is (703) 872-9306. For After Final, the Fax number is (703) 872-9307.

Phuong N. Huynh, Ph.D.
Patent Examiner
Technology Center 1600
November 24, 2003

Christina Chan
CHRISTINA CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600

Continuation of Disposition of Claims:
Claims 132-136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 155, 157, 159, 161-165, 168-169, 171, 173, 175-178, 180-181 183, 185, 187-189, 191-192, 194, 196, 198-201, 203, 205, 207-208, 210-213, 215-216, 218, 220, 222-224, 226-227, 229, 231, 233-235, 237-238, 240, 242, 245-252, 254, and 256-264 are pending in the application.

Continuation of Disposition of Claims:

Claims 132-136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 155, 157, 159, 161-165, 168-169, 171, 173, 175-178, 180-181 183, 185, 187-189, 191-192, 194, 196, 198-201, 203, 205, 207-208, 210-213, 215-216, 218, 220, 222-224, 226-227, 229, 231, 233-235, 237-238, 240, 242, 245-251, 254, and 256-264 are rejected.